

What is claimed is:

1. A through-the-washer-dryer pouch-type detergent bag comprising:

a front panel having a left edge, a right edge, a top edge, and a bottom edge; said front panel being made of air and water permeable material;

a rear panel having a left edge, a right edge, a top edge and a bottom edge; said rear panel being made of air and water permeable material;

said respective left edges, right edges and top edges of said front and rear panels being sealed together adjacent their respective edges to form a container having an interior chamber therein having a total volume  $V_T$ .

said chamber having a length  $L_1$ , a height  $H_1$  and a width  $W_1$ ;  $L_1$  is in the range of 2.5"-6",  $H_1$  is in the range of 2.5"-6", and  $W_1$  is in the range of .5"-2.5"; and

a predetermined weight and volume of granular detergent particulate in said chamber; the size of said detergent particulate being in the range of 5-250 microns and the weight of said detergent particulate being in the range of 1-8 ounces; the volume of said detergent particulate being in the range of  $.40 V_T - .70 V_T$  and the remaining air volume of said container having a volume in the range of  $.30 V_T - .60 V_T$ .

2. A pouch-type detergent bag as recited in claim 1 wherein said front and rear panels are made of nonwoven polyester material.

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3. A pouch-type detergent bag as recited in claim 1 wherein said respective edges of said panels are sealed together by a heat seal seam.

4. A pouch-type detergent bag as recited in claim 1 wherein said material of said front and rear panels are impregnated with a fabric softener/anti-static coating.

5. A pouch-type detergent bag as recited in claim 1 wherein said front and rear panels are formed of an integral sheet of material.

a 6. A through-the-washer-dryer ~~pouch-type~~ detergent bag comprising;

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a pair of containers each having an inner panel and an outer panel; each of said panels being made of air and water permeable material and each of said panels having a left edge, a right edge, a top edge and a bottom edge; said respective top edges and left edges of said respective sets of inner and outer panels being sealed together adjacent their respective edges to form two containers each having an interior chamber therein having a total volume  $V_T$ ; said chambers each having a length  $L_2$ , a height  $H_5$ , and a width  $W_2$ ;  $L_2$  is in the range of 2.5"-6",  $H_5$  is in the range of 2.5"-6", and  $W_2$  is in the range of .5"-2.5"; a ~~predetermined weight and volume of~~ granular detergent particulate in each of said chambers; the size of said detergent particulate being in the range of 5-250 microns and the total weight of said detergent particulate being in the range of 1-8 ounces; the volume of said particulate being in the range of .40  $V_T$ -.70  $V_T$ , and the remaining

air volume in each of said containers having a volume in the range of  $.30 V_T - .60 V_T$ ; and

the top edges of said respective containers being sealed together and a web of material having a top surface and a bottom surface connects the respective bottom edges of said respective containers together thus forming an air and water passageway between the inner panels of said respective containers and said top surface of said web of material.

a 27. A ~~pouch-type~~ detergent bag as recited in claim 6 wherein said inner and outer panels are made of nonwoven polyester material.

a 38. A ~~pouch-type~~ detergent bag as recited in claim 6 wherein said respective edges of said panels are sealed together by a heat seal seam.

a 49. A ~~pouch-type~~ detergent bag as recited in claim 6 wherein ~~said material of said inner and outer panels~~ <sup>are</sup> ~~is~~ impregnated with fabric softener/anti-static ingredients.

a 510. A ~~pouch-type~~ detergent bag as recited in claim 6 wherein said respective inner panels, outer panels and web of material are formed of an integral sheet of material.

Ins. A1 a 611. <sup>A</sup> ~~The method of use of a through-the-washer-dryer pouch-type detergent bag and also setting forth the different stages that said pouch detergent bag passes through comprising:~~

a (a) picking up a ~~pouch-type~~ detergent bag having the following structure:

a front panel having a left edge, a right edge, a top

edge and a bottom edge; said front panel being made of air and water permeable material;  
a rear panel having a left edge, a right edge, a top edge and a bottom edge; said rear panel being made of air and water permeable material;  
said respective left edges, right edges and top edges of said front and rear panels being sealed together adjacent their respective edges to form a container having an interior chamber therein having a total volume  $V_T$ ; said chamber having a length  $L_1$ , a height  $H_1$  and a width  $W_1$ ;  $L_1$  is in the range of 2.5"-6",  $H_1$  is in the range of 2.5"-6', and  $W_1$  is in the range of .5"-2.5"; and  
a ~~predetermined weight and volume of granular detergent particulate in said chamber; the size of said particulate being in the range of 5-250 microns and the total weight of said detergent particulate being in the range of 1-8 ounces; the volume of said detergent particulate being in the range of .40 $V_T$ -.70 $V_T$ , and the remaining air volume of said chamber having a volume in the range of .30 $V_T$ -.60 $V_T$ .~~

- (b) dropping said ~~pouch-type~~ detergent bag into a clothes washing machine set to a wash cycle and as said bag comes into contact with water in said clothes washing machine, said bag puffs up ~~due to air entering the interior chamber of said bag;~~
- (c) agitating said ~~pouch-type~~ detergent bag in the water

during a wash cycle in said clothes washing machine causing water to permeate the interior chamber of said bag and dissolve said detergent and said dissolved detergent and air is then forced out of said chamber as said chamber collapses and said bag becomes flattened;

a (d) continued agitation of said ~~pouch-type~~ detergent bag in said washing machine causes said bag to curl up into a wad of material; and

(e) transferring clothes that have finished a wash cycle along with said bag in its wadded state into a clothes dryer that heats up the wadded bag sufficiently to release its fabric softener/anti-static ingredients.